

STATIONARY SOURCE PERMIT TO OPERATE

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

Appalachian Power Company, Clinch River Plant
P.O. Box 370
Cleveland, VA 24225
Registration No. 10236

is authorized to operate

a coal-fired, steam electric generating facility

located at

the junction of Routes 664 and 665
near Carbo, in Russell County, Virginia

in accordance with the Conditions of this permit.

Approved on DRAFT.

Dallas R. Sizemore
Regional Director

Permit consists of 7 pages.
Permit Conditions 1 to 14.

INTRODUCTION

This permit approval is based on the permit application dated July 21, 2008 and amended pages dated October 17, 2008. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.

Words or terms used in this permit shall have meanings as provided in 9 VAC 5-10-20 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition.

Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact.

The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

PROCESS REQUIREMENTS

1. **Equipment List** - Equipment at this facility consists of the following:

Reference No.	Equipment Description	Rated Capacity
CR1	B&W Radiant Tube Boiler	2100.9 mmBtu/hr input
CR2	B&W Radiant Tube Boiler	2100.9 mmBtu/hr input
CR3	B&W Radiant Tube Boiler	2100.9 mmBtu/hr input

Specifications included in the permit under this Condition are for informational purposes only and do not form enforceable terms or conditions of the permit.
(9 VAC 5-80-850 F)

2. **Monitoring Devices** – The B&W Radiant Tube Boilers' exhaust stacks shall be equipped with devices to continuously measure and record the concentrations of sulfur dioxide emissions. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each

monitoring device shall be provided with adequate access for inspection and shall be in operation when the boilers are operating. Data from sulfur dioxide continuous emission monitoring systems that were installed and in operation at this source prior to the date of this permit that also meet all applicable regulatory requirements, may be used to meet the monitoring requirements of this condition.
(9 VAC 5-80-850)

OPERATING LIMITATIONS

3. **Fuel** - The sulfur content of the coal feedstock to the B&W Radiant Tube Boilers shall be maintained at levels such that the resulting sulfur dioxide (SO₂) emissions comply with the emission limitations in Conditions 5 and 6 of this permit. A nuclear coal analyzer will be used to obtain real-time data pertaining to the physical properties of the coal feed to the unit bunkers.
(9 VAC 5-80-850)
4. **Fuel Certification** - The permittee shall, not less than once each calendar week, either sample and analyze the coal or cause the coal to be sampled and analyzed in such a manner and at appropriate location(s) to obtain representative data of sulfur content on an as-fired basis. Fuel sampling shall be conducted in accordance with ASTM Method D2013, D2234, or other DEQ-approved methods. Fuel analyses shall be conducted in accordance with test methods D2492, D3177, or D4239 for sulfur content, and D5865 for calorific (Btu) content, or other DEQ-approved methods. The results of the fuel analyses shall be reported to the DEQ, Director Southwest Regional Office quarterly, within 30 calendar days after the end of the calendar quarter. The report shall contain the dates the samples were collected, company and individual collecting the sample, identification of sampling method used, sample mass, number of samples (if composite sample), location of fuel when sample taken, date of analysis, and company and individual conducting the analysis.

As an alternative to the sampling and analysis required above, fuel supplier certifications can be obtained from suppliers with each shipment of coal that provide sulfur content of the fuel sufficient to allow computation of sulfur content of the coal on an as-fired basis. If fuel supplier certifications are used to comply with this condition, each fuel supplier certification shall include the following:

- a. The name of the fuel supplier;
- b. The date on which the coal was received;
- c. The quantity of coal delivered in the shipment;
- d. The sulfur content of the coal;

- e. Documentation of sampling of the coal, indicating the location of the fuel when the sample was taken, and;
- f. The methods used to determine the sulfur content of the coal.

The fuel supplier certifications and information detailed in a - f above shall be reported to the DEQ, Director Southwest Regional Office quarterly, within 30 calendar days after the end of the calendar quarter. In addition to the information required for reporting associated with the fuel supplier certification scenario, the permittee shall provide the details, computations, and calculations used to determine sulfur content on an as-fired basis.

Fuel sampling and analysis, independent of that used for certification, may be required or conducted by DEQ.
(9 VAC 5-80-850)

EMISSION LIMITS

5. **Process Emission Limits** – Beginning January 1, 2009, and continuing thereafter, emissions from the operation of each of the three B&W Radiant Tube Boilers shall not exceed the limits specified below:

Sulfur dioxide	2,268.97 lbs/hr (3-hour block average*)
	1.05 lbs/mmBtu per stack (24-hour block average*)
	9,662 tons/year

Compliance with the limitations contained in this condition shall be determined using data and information resultant from and required by Conditions 2 - 4 and 7 of this permit and any other credible information or data, as approved by the Director, Southwest Regional Office.

- * The term “3-hour block average” is defined as non-overlapping 3-hour averages, beginning at midnight, as described in 40 CFR Part 50. The term “24-hour block average” is defined as the average of the 24 hourly values from midnight to midnight, as described in 40 CFR Part 50.
(9 VAC 5-80-850)

6. **Process Emission Limits** – Beginning January 1, 2010 and continuing through December 31, 2014, the combined sulfur dioxide (SO₂) emissions from the operation of the three B&W Radiant Tube Boilers shall not exceed a Plant-Wide Annual Rolling Average Tonnage Limitation of 21,700 tons per year. Beginning January 1, 2015 and continuing thereafter, the combined SO₂ emissions from the operation of the three B&W Radiant Tube Boilers shall not exceed a Plant-Wide Annual Rolling Average Tonnage Limitation of 16,300 tons per year.

The "Plant-Wide Annual Rolling Average Tonnage" is the sum of the tons of SO₂ emitted during the most recent month and the previous eleven (11) months of operation, including periods of startup, shutdown, and malfunction. For the time periods that begin in 2010 and 2015, the periods between January 1 and December 31 in those years shall be used to establish the respective initial annual period.

Compliance with the limitations contained in this condition shall be determined using data and information resultant from and required by Conditions 2 - 4 and 7 of this permit and any other credible information or data, as approved by the Director, Southwest Regional Office.
(9 VAC 5-80-850)

RECORDS

7. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Director, Southwest Regional Office. These records shall include, but are not limited to:
- Quarterly and annual consumption of coal.
 - All fuel supplier certifications, as required in Condition 4.
 - Quarterly emissions calculations for sulfur dioxide, as required in Condition 4, to demonstrate compliance with the emissions limitations in Conditions 5 and 6.
 - Continuous emission monitoring system records for the monitoring devices required in Condition 2.
 - Scheduled and unscheduled boiler maintenance, and operator training.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-900)

GENERAL CONDITIONS

8. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:
- To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;
 - To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;

- c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and
- d. To sample or test at reasonable times.
- e. For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.

(9 VAC 5-170-130 and 9 VAC 5-80-850)

- 9. **Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the Director, Southwest Regional Office of malfunctions of the affected facility that may cause excess emissions for more than one hour, by facsimile transmission, telephone, or telegraph. Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Director, Southwest Regional Office in writing.
(9 VAC 5-20-180 C and 9 VAC 5-80-850)
- 10. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
(9 VAC 5-20-180 I and 9 VAC 5-80-850)
- 11. **Maintenance/Operating Procedures** – At all times, including periods of start-up, shutdown, soot blowing, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source in a manner consistent with good air pollution control practices for minimizing emissions.

The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to the B&W Radiant Tube Boilers:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Maintain an inventory of spare parts.
- c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such

equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.

(9 VAC 5-50-20 E and 9 VAC 5-80-850)

12. Permit Suspension/Revocation - This permit may be revoked if the permittee:

- a. Knowingly makes material misstatements in the permit application or any amendments to it;
- b. Fails to comply with the terms or conditions of this permit;
- c. Fails to comply with any emission standards applicable to a permitted emissions unit;
- d. Causes emissions from this facility which result in violations of, or interferes with the attainment and maintenance of, any ambient air quality standard;
- e. Fails to operate this facility in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect at the time that an application for this permit is submitted;
- f. Fails to comply with the applicable provisions of Articles 6, 8 and 9 of 9 VAC 5 Chapter 80.

(9 VAC 5-80-1010)

13. Change of Ownership - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Director, Southwest Regional Office of the change of ownership within 30 days of the transfer.

(9 VAC 5-80-940)

14. Permit Copy - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.

(9 VAC 5-80-860 D)